

AMENDMENTS TO THE SPECIFICATION

Amend the TITLE as follows:

FIBER OPTIC-BASED PROBE FOR USE IN SALTWATER AND SIMILARLY
5 CONDUCTIVE MEDIA AS FOUND IN UNENCLOSED NATURAL ENVIRONMENTS

Amend the ABSTRACT as follows:

Using ~~a~~Arrays of optical fibers connected to specially configured electronics, e.g., a
phototransistor, an LED, an amplifier, a detector, and display, software and PCMCIA A/D
10 board available on a personal computer, are used to obtain continuous real-time acquisition,
processing, and visualization of change in a ~~monitored medium is provided~~media occurring in
natural environments. ~~MA~~Alternatively, many of the individual circuit elements above may be
replaced with a power meter ~~in an alternative embodiment~~. In a specific application, ~~seour~~ data
are collected on the depth of sediment below a body of water. As the sediment depth is ~~eroded~~
15 changed by an event, the ends of the optical fibers in the array display a different reflection or
transmission coefficient indicating that water has replaced sediment or vice versa. By knowing
which of the optical fiber ends in the array is indicating the changed reflection or transmission
coefficient, ~~an estimate of how much scour depth or silt accretion has occurred is provided~~may
be estimated. A method of employment of the system is also ~~provided~~described.